

Contact dermatitis caused by turmeric in a massage oil

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doi:10.1111/cod.12549

Key words: allergic contact dermatitis; CAS no. 458-37-7; case report; curcumin; turmeric.

The rhizomes of *Curcuma longa* constitute the source of turmeric, which has been used for centuries as a herbal medicine, as a spice in cooking, in cosmetics, and as a dye.

Case Report

A 60-year-old female applied turmeric on her lower legs for muscle pain. She used freshly ground turmeric powder

in coconut oil, and rubbed it over her calves and knees. Only the muscular parts of the legs were massaged hard with the turmeric oil. A few days later, she developed an itchy rash over the lower extremities, which persisted for a few days. Her past history revealed that she had drunk turmeric tea every week for the past 3 months.

Physical examination showed multiple erythematous papules and patches over both calves (Fig. 1). No other comorbidities were noted. Patch testing was performed according to ICDRG guidelines (1), with 2 days of exposure, and readings on day (D)2 and D4, with the Chemotechnique (Vellinge, Sweden) European baseline series, supplemented with turmeric 0.01% wt/wt pet., Cocamide DEA 0.5% pet., and pet. as the control. A turmeric extract in eth. was prepared by dispersing 20 g

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Conflicts of interest: The authors declare no conflict of interests.



Fig. 1. Multiple erythematous papules and plaques over both lower extremities.



Fig. 2. ++ Reaction to turmeric 0.01% pet. at D4.

of turmeric powder in 100 ml of 70% eth., leaving it for 48 h, and filtering the liquid portion. This was mixed in 100 g of pet. to give a 0.01% concentration. The results

showed a ++ reaction to turmeric 0.01% pet. (Fig. 2), a + reaction to nickel sulfate 5% pet., a + reaction to cobalt chloride 1% pet., and no reactions to the remaining allergens. Patch testing was also performed in 10 control subjects, who showed negative results. The patch testing thus showed contact allergy to turmeric, nickel sulfate, and cobalt chloride, with allergic contact dermatitis caused by turmeric. The patient reported a previous history of contact dermatitis caused by costume jewellery, which could explain the positive reactions to nickel and cobalt. There was no intolerance to turmeric-spiced food after the patient became sensitized.

Discussion

The turmeric plant *C. longa* from the ginger family has medicinal, cosmetic and culinary uses, but turmeric may also cause allergic contact dermatitis when applied to the skin (2, 3). For instance, a 64-year-old male employed as a miller in a spice shop developed dermatitis of the hands, forearms, and dorsa of the feet. Patch testing showed sensitivity to turmeric powder. It is likely that sensitization occurred through exposure to the airborne dust created by the milling process [after (2)]. Allergic contact dermatitis caused by turmeric presented as pruritic erythematous papules, patches and vesicles over the areas where it was applied in our patient. Our patient had applied the ground turmeric because of the belief that this herbal medication could ease her aching leg muscles. It is unclear whether the oral ingestion of turmeric tea could have sensitized the patient.

References

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